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New records of lithobiid centipedes from Siberia, Russia (Chilopoda: Lithobiomorpha: Lithobiidae)

Новые находки многоножек-костянок из Сибири, Россия (Chilopoda: Lithobiomorpha: Lithobiidae)

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KEY WORDS: lithobiid centipedes, Lithobiidae, *Lithobius*, *Chinobius*, *Ezembius*, *Monotarsobius*, fauna, new records, Siberia, Russia.

КЛЮЧЕВЫЕ СЛОВА: многоножки-костянки, Lithobiidae, *Lithobius*, *Chinobius*, *Ezembius*, *Monotarsobius*, фауна, новые находки, Сибирь, Россия.

ABSTRACT. Based on new material and previously unstudied collections, the distributions of 13 lithobiid species from Siberia have been refined. The subgenus *Chinobius* Matic, 1973 and two species, *Lithobius* (*Ch.*) *opinatus* (Zalesskaja, 1978) and *L.* (*Ezembius*) *giganteus* Sseliwanoff, 1881, are reported from western Siberia for the first time. Some species, *L.* (*E.*) *giganteus* Sseliwanoff, 1881, *L.* (*Monotarsobius*) *fugax* Stuxberg, 1876 and *L.* (*M.*) *nordenskioeldii* Stuxberg, 1876, are new to the Republic of Altai. The first data on the lithobiid fauna of the Republic of Khakassia, encompassing 5 species, are provided: *L.* (*Ch.*) *opinatus* (Zalesskaja, 1978), *L.* (*E.*) *princeps* Stuxberg, 1876, *L.* (*M.*) *curtipes* C.L. Koch, 1847, *L.* (*M.*) *fugax* Stuxberg, 1876 and *L.* (*M.*) *worogowensis* Eason, 1976. The distributions of all species encountered are mapped for the first time in the Siberian region.

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РЕЗЮМЕ. По результатам обработки нового материала и необработанных ранее коллекций уточнено распространение в Сибири 13 видов многоножек-костянок. Подрод *Chinobius* Matic, 1973 и два вида, *Lithobius* (*Ch.*) *opinatus* (Zalesskaja, 1978) и *L.* (*Ezembius*) *giganteus* Sseliwanoff, 1881, формально впервые указываются для Западной Сибири. Виды *L.* (*E.*) *giganteus* Sseliwanoff, 1881, *L.* (*Monotarsobius*) *fugax* Stuxberg, 1876 и *L.* (*M.*) *nordenskioeldii* Stuxberg, 1876 являются новыми для Республики Алтай. Приводятся первые данные по фауне костянок Республики Хакасия, включающей 5 видов: *L.* (*Ch.*) *opinatus* (Zalesskaja, 1978), *L.* (*E.*) *princeps* Stuxberg, 1876, *L.* (*M.*) *curtipes* C.L. Koch, 1847, *L.* (*M.*) *fugax* Stuxberg, 1876 и *L.* (*M.*) *worogowensis* Eason, 1976. Для всех видов впервые выполнено картирование ареалов в пределах Сибири.

Introduction

The first data on the lithobiid fauna of Siberia appeared in the second part of XIX century [Gerstfeldt, 1859; Stuxberg, 1876a, b; Haase, 1880; Sseliwanoff, 1880a, b, 1881a, b]. The original descriptions of all species recorded in those papers were unsatisfactory, thus requiring redescriptions. A century later, Stuxberg's type material was revised by Eason [1976] with designations of lectotypes of several species. Despite all recent progress in the study of lithobiomorph centipedes in the Asian part of Russia [Molodova, 1972; Alekseeva, 1974; Kurcheva, 1977; Zalesskaja, 1978; Vorobiova, 1999; Nefediev, 2001; Rybalov, 2002; Vorobiova *et al.*, 2002; Striganova, Poryadina, 2005; Sergeeva, 2010, 2013; Bukhkalo, Sergeeva, 2012; Nefediev, Aripov, 2013; Bukhkalo *et al.*, 2014; Nefediev *et al.*, 2016, 2017a, b, c, 2018, 2020; Dyachkov, 2017b; Farzalieva *et al.*, 2017; Farzalieva, 2018; Farza-

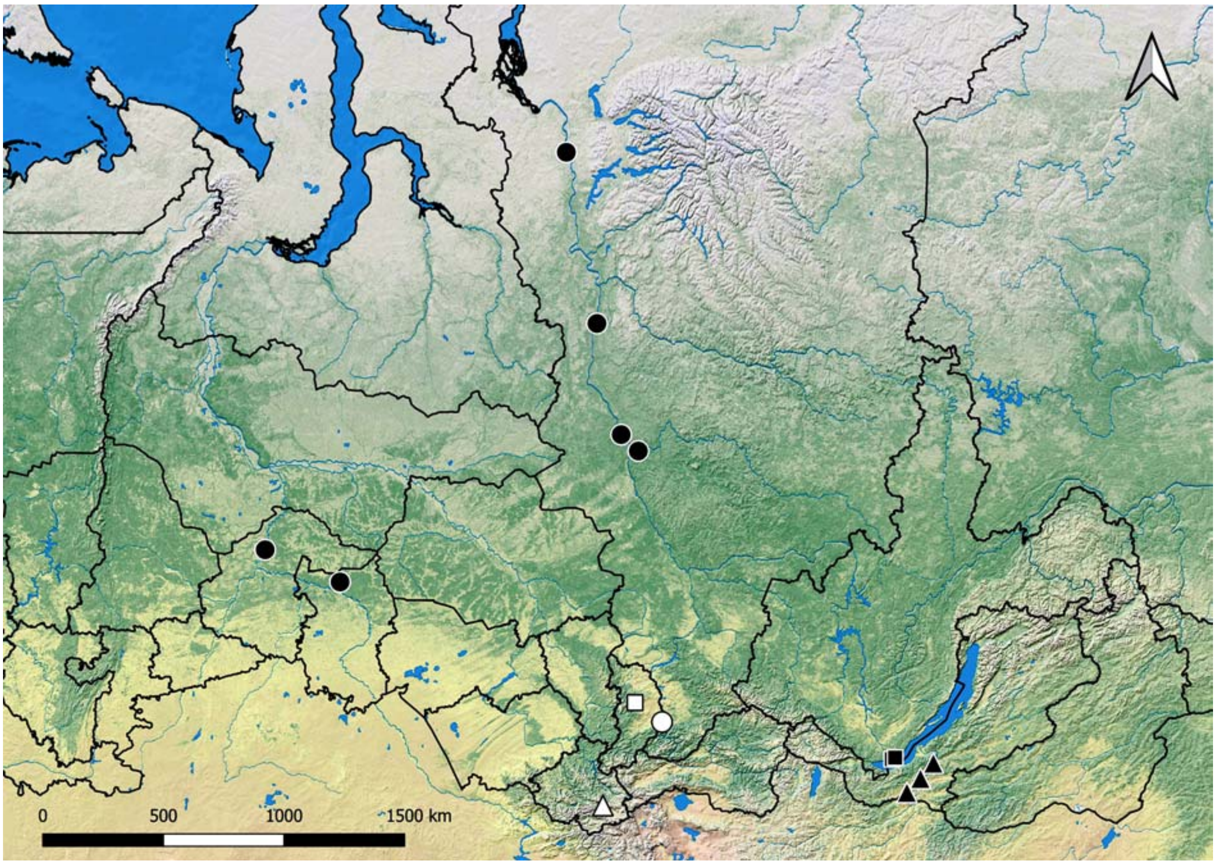


Fig. 1. Distributions of *Lithobius* (*Chinobius*) *opinatus* (Zalesskaja, 1978) (square), *L.* (*Ezembius*) *giganteus* Sseliwanoff, 1881 (triangle) and *L.* (*E.*) *princeps* Stuxberg, 1876 (circle) in Siberia. Previously known localities marked in black, new records given in white.

Рис. 1. Распространение *Lithobius* (*Chinobius*) *opinatus* (Zalesskaja, 1978) (квадрат), *L.* (*Ezembius*) *giganteus* Sseliwanoff, 1881 (треугольник) и *L.* (*E.*) *princeps* Stuxberg, 1876 (круг) в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

lieva, Nefediev, 2018], the fauna of Lithobiomorpha of Siberia remains understudied.

The distribution maps were composed using QGIS 3.8.0-Zanzibar.

The material treated herein has been deposited in the collections of the Perm State University (PSU), and the Altai State University, Barnaul, Russia (ASU). Literature references to the species concern Siberia only.

Abbreviations used: s.l. — same locality, p.t. — pitfall traps, b.h. — by hand, A.M. — A.B. Medvedev, A.P. — A.P. Pavlov, D.P. — D.I. Pogrebnyak, E.G. — E.V. Gribanova (all Abakan, Russia), M.S. — M.V. Shcherbakov (Tomsk, Russia), N.V. — N.M. Vyatkina (Troitskoye, Altai Province, Russia), A.N. — A.P. Nefedieva, J.N. — J.S. Nefedieva, P.N. — P.S. Nefediev (all Barnaul, Russia), V.G. — V.I. Gusarov, M.M. — M.F. Maurstad, V.L. — V. Løveng (all Oslo, Norway).

Taxonomic part

Class Chilopoda

ORDER LITHOBIOMORPHA

Family LITHOBIIDAE

Lithobius (*Chinobius*) *opinatus* (Zalesskaja, 1978) Map 1.

Chinobius opinatus Zalesskaja, 1978: 38, 39: figs.

MATERIAL EXAMINED. 1 ♂, 1 ♀, 1 juv. (PSU-811), Russia, **Republic of Khakassia**, Ust-Abakan District, valley of Uibat River, 53.825765°N, 90.052647°E, mixed forest, ca 700 m a.s.l., in litter, 18.VII.2012, leg. A.P.; 1 ♀ (ASU), s.l., 18.VII.2018, leg. E.G.

DISTRIBUTION. Being originally described by Zalesskaja [1978] from the Irkutsk Area, this species has previously been known only from its *terra typica*.

REMARKS. This species is being reported from outside its type locality for the first time, and the above records are new to entire western Siberia, in particular, to the Republic of Khakassia, representing the westernmost ones.

Lithobius (*Ezembius*) *giganteus* Sseliwanoff, 1881 Map 1.

Lithobius giganteus — Zalesskaja, 1973, 1978: 130, 131: figsæ Alekseeva, 1974: 8.

MATERIAL EXAMINED. 1 ♂, 1 ♀ (PSU-1201), 1 ♂, 1 ♀ (ASU), Russia, **Republic of Altai**, Kosh-Agach District, 14 air-km NW of Chagan-Uzun, floodplain of Chuya River, on right bank, 50.1650225°N, 88.195779°E, stony steppe, under stones in grassy glades, 1650 m a.s.l., 11.VIII.2006, leg. P.N., J.N.

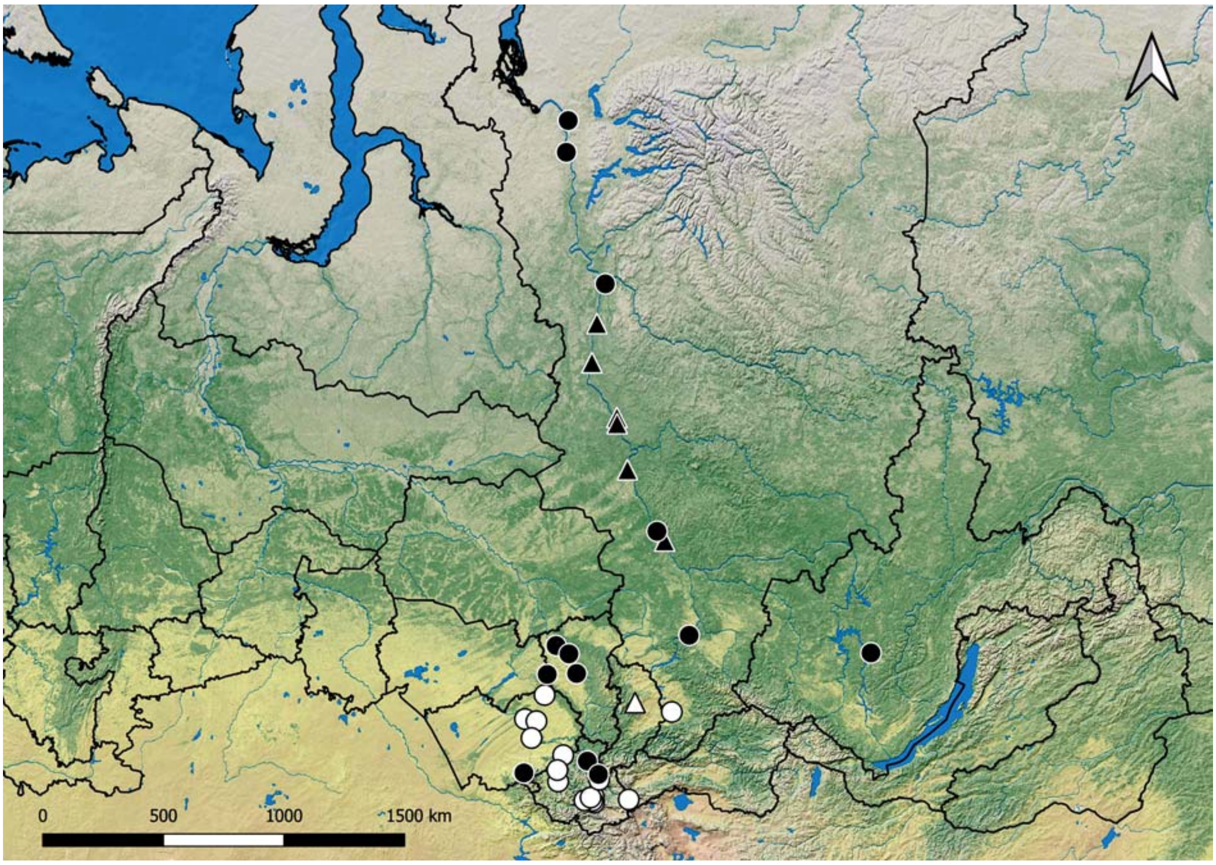


Fig. 2. Distributions of *Lithobius* (*Ezembius*) *ostiacorum* Stuxberg, 1876 (circle) and *L*. (*Monotarsobius*) *worogowensis* Eason, 1976 (triangle) in Siberia. Previously known localities marked in black, new records given in white.

Рис. 2. Распространение *Lithobius* (*Ezembius*) *ostiacorum* Stuxberg, 1876 (круг) и *L*. (*Monotarsobius*) *worogowensis* Eason, 1976 (треугольник) в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

DISTRIBUTION. Originally described by Sseliwanoff [1881a, b] from the Zavkhan Province in western Mongolia, this species was later reported from the Issyk-Kul and Ala Archa regions, both Kyrgyzstan [Lignau, 1929; Dobroruka, 1979], the Inner Mongolia Autonomous Region, northern China [Verhoeff, 1934], and almost entire Mongolia [Dobroruka, 1960, 1970; Loksa, 1965, 1978; Poloczek *et al*., 2016; Dyachkov, 2017a]. All previous records of *L*. (*E*.) *giganteus* from Russia are confined to the Republic of Buryatia, eastern Siberia [Zalesskaja, 1973, 1978] and the Borgoi, Gusinooziorsk and Ivolginsk steppes in the same region [Alekseeva, 1974].

REMARKS. This species is being recorded herewith in western Siberia, namely the Republic of Altai, for the first time.

Lithobius (*Ezembius*) *ostiacorum* Stuxberg, 1876
Map 2.

Lithobius ostiacorum Stuxberg, 1876a: 15, 16: fig.; 1876b: 308.

Lithobius ostiacorum — Sseliwanoff, 1881a: 12, inset: fig; Eason, 1976: 92, 94–95: figs; Zalesskaja: 1978: 125, figs; Nefediev, Aripov, 2013: 40.

Ezembius ostiacorum — Chamberlin, 1919: 19; 1923: 241.

Lithobius (*Ezembius*) *ostiacorum* — Nefediev *et al*., 2017a: 218: map; 2017b: 13; 2018: 229; Nefediev *et al*., 2020: 37, 38: map.

MATERIAL EXAMINED. 2 ♀♀ (ASU), Russia, **Republic of Altai**, Ulagan District, 15 air-km NNW of Aktash, near Lake Taldukiol, 50.442475°N, 87.546728°E, sparse *Larix sibirica* forest, 1855 m a.s.l., in litter and under tree trunks and bark, 17.VII.2006; 1 juv. (ASU), near s.l., 50.443294°N, 87.534489°E, sparse *Larix sibirica* forest with *Betula rotundifolia*, ca 1840 m a.s.l., in litter and moss, 18.VII.2006; 1 ♀ (ASU), same Republic and District, 5.5 air-km SE of Aktash, Starye Miony, near Kara-Tyt Spring, floodplain of Mionka River, 50.281032°N, 87.680762°E, *Picea obovata* forest with green mosses, 1410 m a.s.l., 20.VII.2006; 1 ♀ (ASU), same Republic, Kosh-Agach District, Altai State Nature Reserve, 9 km S of Lake Dzhulukul, near Pak-Yyash Lakes, 50.392545°N, 89.685769°E, *Betula rotundifolia*, ca 2380 m a.s.l., in moss, 27.VII.2006; 1 ♂, 1 ♀ (PSU-1240), 1 ♀ (ASU), same Republic, Ulagan District, ca 21 air-km N of Aktash, Ulagan Pass, 50.501562°N, 87.655555°E, sparse *Pinus sibirica* forest with *Betula rotundifolia*, in moss, ca 2065 m a.s.l., 31.VII.2006; 1 ♂ (ASU), same Republic and District, ca 3.7 air-km N of Aktash, summit of Mt Aktash, *Pinus sibirica* and *Larix sibirica* forest, 50.349499°N, 87.585986°E, 2110 m a.s.l., 5.VIII.2006; 2 ♀♀ (ASU), same Republic, Ongudai District, 6.5 air-km ESE of Belyi Bom, valley of Tutugoi River, 50.360284°N, 87.128623°E, *Betula pendula* forest, 1200 m a.s.l., 9.VIII.2006; 1 ♀ (ASU), same Republic, Ulagan District, ca 18 air-km NNW of Aktash, NE part of Lake Sorulukiol, 50.463823°N, 87.485185°E, *Pinus sibirica* forest with *Larix sibirica*, *Vaccinium vitis-idaea*, green mosses, 1890 m a.s.l., 13.VIII.2007; 1 ♂, 1 juv. (ASU), same Republic, Maima District, Gorno-Altaisk, floodplain of Maima River, foot of Mt Tugaya, 51.995684°N, 85.902017°E, *Betula pendula* and *Acer negundo*, ca 275 m a.s.l., 9.X.2014; 2 juv. (ASU), same Republic, Ongudai

District, Seminskii Pass, 51.047968°N, 85.607156°E, sparse *Pinus sibirica* forest, 1700 m a.s.l., 6.VII.2016, all leg. P.N., J.N.; 3 ♂♂, 1 ♀ (ASU), same Republic, Shebalino District, ca 10 km S of Cherga on Chuya Tract, *Betula pendula* and *Larix sibirica* forest, p.t., 21.VII.2006, leg. M.S.; 1 juv. (ASU), same Republic, Ulagan District, Altai State Nature Reserve, Stone Mushrooms (= Akkurum), 51°06′40″N, 87°58′33″E, *Betula pendula* patch between two groups of rocks, 730 m a.s.l., 5.VII.2016, leg. P.N., J.N.; 1 ♀ (ASU), Russia, **Altai Province**, Barnaul, Yuzhnyi, mixed forest, 27.VI.2010; 24 ♂♂, 2 ♀♀ (PSU-1281), 4 ♀♀ (ASU), same Province, Kosikha District, near Ozero-Krasilovo, ASU Field Station, Lake Krasilovo, *Pinus sylvestris*, *Betula pendula* and *Populus tremula* forest with tall grass vegetation, p.t., 30.VI.–5.VII.2014; 11 ♂♂, 5 ♀♀ (PSU-1273), s.l., p.t., 5–10.VII.2014; 2 ♀♀, 1 subadult ♂ (ASU), same Republic, Zalesovo District, near Peshchiorka, 54°05′00″N, 84°49′31″E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.IX.2015, all leg. P.N.; 6 ♂♂, 5 ♀♀, 2 subadult ♀♀ (ASU), same Province, Troitskoye District, near Chervyanka, young *Pinus sylvestris* forest, p.t., 17–27.VI.2016; 1 ♂, 1 ♀ (PSU-1267), s.l., p.t., 15–24.VIII.2016, 2 ♀♀, 1 juv. (ASU), near s.l., *Pinus sylvestris* forest, p.t., 16–25.VIII.2016, all leg. N.V.; 1 ♂ (PSU-819), Russia, **Krasnoyarsk Province**, Minusinsk District, near Verkhnyaya Koya, 53°30′23.4″N, 92°10′21.7″E, *Pinus sylvestris* forest, ca 400 m a.s.l., 3.IX.2007, leg. S.D.

DISTRIBUTION. This species was originally described by Stuxberg [1876a, b] from the Yenisei River region, Krasnoyarsk Province, central Siberia, and redescribed a century later by Eason [1976] from Stuxberg's type material. All subsequent records expanded its distribution area in Asian Russia to the Irkutsk Area [Zalesskaja, 1978], the Altai Province [Zalesskaja, 1978; Nefediev *et al*., 2017b, 2018], the Republic of Altai [Nefediev *et al*., 2017a], and the Kemerovo Area [Nefediev *et al*., 2020]. This species is also known from northern Mongolia [Poloczek *et al*., 2016].

REMARKS. The above records extend the distribution area of *L*. (*E*.) *ostiacorum* to the central and southeastern parts of the Republic of Altai, northeastern and central parts of the Altai Province, as well as to the southern part of the Krasnoyarsk Province.

Lithobius (*Ezembius*) *princeps* Stuxberg, 1876 Map 1.

Lithobius princeps Stuxberg, 1876a: 17, 18: fig; 1876b: 309.
Lithobius scrobiculatus Stuxberg, 1876a: 19; 1876b: 310; Eason, 1976: 100, 101: fig.
Monotarsobius princeps — Attems, 1909: 18.
Ezembius princeps — Chamberlin, 1919: 19; 1923: 241.
Ezembius scrobiculatus — Chamberlin, 1919: 19; 1923: 241.
Lithobius princeps — Eason, 1976: 97, 98–99: figs; Zalesskaja, 1978: 121, 122: figs; Nefediev, Aripov, 2013: 40.
Lithobius (*Ezembius*) *princeps* — Sergeeva, 2010: 38; Bukhkalo *et al*., 2014: 72; Nefediev *et al*., 2017c: 116, 117: map.
? *Lithobius Czekanowskii* — Sseliwanoff, 1881a: inset: fig; 1881b: 15.

MATERIAL EXAMINED. 9 ♂♂, 1 ♀ (PSU-823), Russia, **Republic of Khakassia**, Altai District, Ochurskii Bor, 53°09′33.5″N, 91°36′35.9″E, *Pinus sylvestris* forest, 30.IX.2008, leg. D.P.

DISTRIBUTION. Originally described by Stuxberg [1876a, b] from near the Podkamennaya Tunguska River in the Yenisei River region, Krasnoyarsk Province, central Siberia, this species was redescribed by Eason [1976] from Stuxberg's type material, with lectotype designation. It was later recorded from Eastern Kazakhstan [Tuf, 2007; Tuf *et al*., 2010; Dyachkov, 2017b, 2019], the Tyumen and Omsk areas, both southwestern Siberia [Sergeeva, 2010; Bukhkalo *et al*., 2014; Nefediev *et al*., 2017c].

REMARKS. The above records of this species are new to the Republic of Khakassia.

Lithobius (*Ezembius*) *proximus* Sseliwanoff, 1880 Map 3.

Lithobius proximus Sseliwanoff, 1880b: 23.
Lithobius proximus — Sseliwanoff, 1881a: 10, inset: fig; Alekseeva, 1974: 8; Zalesskaja, 1978: 125, figs; Vorobiova, 1999: 33; Rybalov, 2002: 81; Vorobiova *et al*., 2002: 61; Striganova, Poryadina, 2005: 226; Sergeeva, 2010: 37; Bukhkalo, Sergeeva, 2012: 61.
Lithobius (*Ezembius*) *proximus* — Sergeeva, 2010: 38; 2013: 530; Bukhkalo *et al*., 2014: 71; Dyachkov, 2017b: 454; Nefediev *et al*., 2017a: 218, map; 2017b: 13; 2017c: 116, 117: map; 2018: 230; 2020: 38, map.

MATERIAL EXAMINED. 1 juv. (ASU), Russia, **Republic of Altai**, Ulagan District, near Aktash, N slope of Mt Belkenek behind Mionka River, 50.305420°N, 87.589075°E, *Picea obovata* forest with *Pinus sibirica* and *Larix sibirica*, 1345 m a.s.l., in litter, 16.VII.2006; 2 juv. (ASU), same Republic, Ongudai District, 9 air-km SSW of Belyi Bom, near Achik Pass, 50.295678°N, 86.977943°E, sparse *Pinus sibirica* forest edge, 2120 m a.s.l., 21.VII.2006, all leg. P.N., J.N.; 1 ♂ (PSU-1019), 8 juv. (ASU), same Republic, Shebalino District, 3.5 air-km SE of Topuchaya, 51.11235°N, 85.63166°E, mixed herbaceous meadow, ca 1435 m a.s.l., p.t., 20–22.VII.2018, leg. P.N.; 2 ♂♂, 2 ♀♀, 8 juv. (PSU-1020), 6 ♀♀, 5 juv. (ASU), near s.l., 51.11189°N, 85.63219°E, *Betula pendula*, *Larix sibirica*, *Pinus sibirica* and *Picea obovata* forest with *Alnus*, *Lonicera*, *Ribes nigrum* and tall grass vegetation on hummocks, along brook, ca 1435 m a.s.l., b.h., sifted leaf litter, p.t., 20–22.VII.2018, leg. P.N., V.G., M.M., V.L.; 2 juv. (ASU), same Republic, Ongudai District, ca 6.25 air-km NEE of Seminskii Pass, Seminskii Mt. Range, near Mt Sarlyk, 51°03.558′N, 85°41.452′E, alpine meadow with scattered *Pinus sibirica* and *Picea obovata* trees, ca 2055 m a.s.l., sifting leaf litter under trees over 100 m, 21.VII.2018, leg. V.G., M.M., V.L.; 2 juv. (ASU), same Republic and District, ca 7.5 air-km NEE of Seminskii Pass, Seminskii Mt. Range, near Mt Sarlyk, 51°03.754′N, 85°42.523′E, alpine meadow with sparse *Larix sibirica*, under stones, 1970 m a.s.l., 21.VII.2018, leg. P.N., V.G.; 3 juv. (ASU), near s.l., 51°03.737′N, 85°42.492′E, alpine meadow belt, patches of *Betula rotundifolia*, *Salix*, dwarf *Juniperus*, scattered *Picea obovata* and *Larix sibirica* trees, ca 1955 m a.s.l., sifting leaf litter and moss over 80 m, 21.VII.2018; 1 juv. (ASU), same Republic and District, 8 air-km NEE of Seminskii Pass, Seminskii Mt. Range, 51°04.031′N, 85°42.779′E, alpine meadow with bush patches of *Betula rotundifolia* and *Salix*, and few scattered trees of *Pinus sibirica*, *Picea obovata* and *Larix sibirica*, ca 2065 m a.s.l., sifting leaf litter and moss over 70 m, 21.VII.2018, all leg. V.G., M.M., V.L.; 1 ♀, 1 juv. (PSU-1029), same Republic and District, 10.5 air-km NE of Seminskii Pass, Seminskii Mt. Range, foot of Mt Sarlyk, Lakes Tuyukskiye, 51°04.547′N, 85°44.560′E, mountain tundra, under stones, ca 2230 m a.s.l., 21.VII.2018, leg. P.N.; 1 ♀ (ASU), same Republic and District, 20 air-km W of Chibit, valley of Chuya River, environs of Shirlak Waterfall, 50°20.670′N, 87°13.388′E, riverine terrasse and slopes with *Picea obovata*, *Betula pendula* and *Caragana arborescens*, 1000 m a.s.l., sifting flood refuse and leaf litter at river banks and on slopes over 300 m, 23.VII.2018, leg. V.G., M.M., V.L.; 1 ♂, 1 ♀, 1 juv. (PSU-1002), same Republic, Ulagan District, 10 air-km ENE of Aktash, Kurai Mt. Range, summit with retranslator, 50.33958°N, 87.74865°E, rocky mountain tundra, ca 2970 m a.s.l., under stones, 23.VII.2018, leg. P.N., V.G., M.M., V.L.; 3 juv. (ASU), near s.l., near summit with retranslator, 50.32598°N, 87.73575°E, alpine meadow with rich herbaceous vegetation, Poaceae, *Dryas*, moss and lichens, ca 2570 m a.s.l., under stones, 23.VII.2018; 1 juv. (ASU), same Republic and District, 3 air-km NE of Aktash, valley of Yarlyamry River, 50.33350°N, 87.64925°E, *Picea obovata* taiga forest with *Larix sibirica*, *Caragana arborescens* and *Alnus*, 1575 m a.s.l., in green mosses, 24.VII.2018, all leg. P.N.; 1 ♂, 3 juv. (ASU), same Republic and District, 3.5 air-km NE of Aktash, valley of Yarlyamry River, 50°20.027′N, 87°38.945′E, forest with *Picea obovata*, *Larix sibirica*, *Pinus sibirica*, *Caragana arborescens*, *Lonicera*, *Ribes nigrum*, moss, 1575 m a.s.l., sifting leaf litter and moss over 50 m, 24.VII.

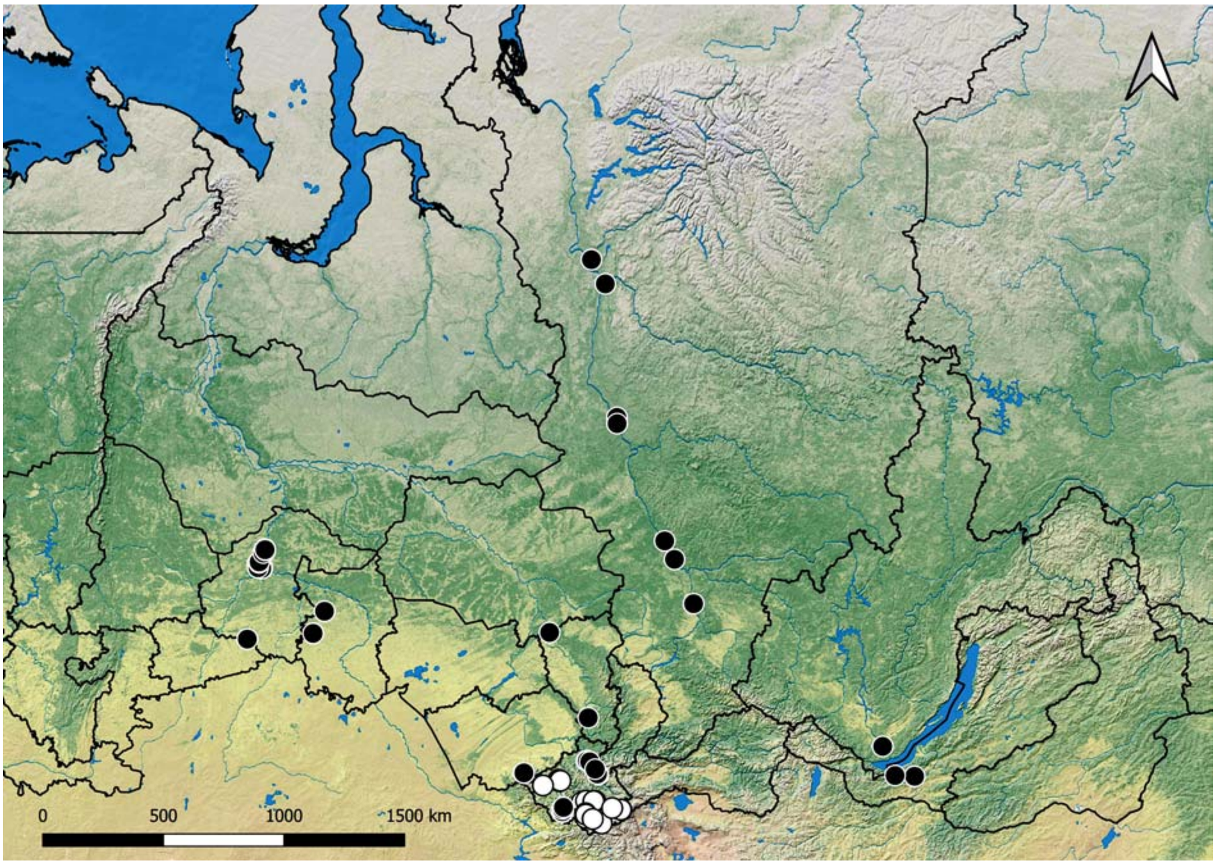


Fig. 3. Distribution of *Lithobius* (*Ezembius*) *proximus* Sseliwanoff, 1880 in Siberia. Previously known localities marked in black, new records given in white.

Рис. 3. Распространение *Lithobius* (*Ezembius*) *proximus* Sseliwanoff, 1880 в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

2018, leg. V.G., M.M., V.L.; 2 ♂♂, 2 ♀♀, 2 juv. (PSU-1004), same Republic and District, 4 air-km NE of Aktash, valley of Yarlyamry River, 50°19.912′N, 87°39.539′E, forest with *Picea obovata*, *Pinus sibirica*, *Larix sibirica*, *Vaccinium vitis-idaea*, *Equisetum*, *Lonicera*, ca 1640 m a.s.l., sifting leaf litter and moss over 50 m, 24.VII.2018, leg. V.G., M.M., V.L.; 1 ♂, 2 ♀♀, 1 juv. (ASU), same Republic, Kosh-Agach District, 20 air-km NE of Kokorya, Chikhachiova Mt. Range, Talduair massif, right bank of Sailyugem River, 50.01802°N, 89.23557°E, floodplain *Larix sibirica* forest, 2225 m a.s.l., under stones, 26.VII.2018, leg. P.N., M.M., V.L.; 1 ♀, 6 juv. (ASU), near s.l., bottom of S slope, 50.01770°N, 89.23775°E, scree with *Astragalus*, *Artemisia*, *Comarum salesovianum*, ca 2245 m a.s.l., under stones lying on bush branches, in herb debris, 26.VII.2018; 1 ♀ (ASU), near s.l., 50.01570°N, 89.25483°E, rocky tundra on S slope, ca 2485–2500 m a.s.l., under stones, 26.VII.2018; 1 ♂ (ASU), near s.l., 50.01550°N, 89.25079°E, subalpine meadow, ca 2425 m a.s.l., under stones, 26.VII.2018, all leg. P.N.; 2 juv. (ASU), near s.l., 50°01.078′N, 89°14.136′E, meadow, ca 2215 m a.s.l., sifting grass tussocks and moss over 80 m, 26.VII.2018; 2 juv. (ASU), near s.l., 50°01.078′N, 89°14.136′E, *Larix sibirica* forest patch, ca 2215 m a.s.l., sifting leaf litter over 40 m, 26.VII.2018; 1 ♀, 1 juv. (ASU), near s.l., left bank of Sailyugem River, 50°01.044′N, 89°14.117′E, forest, riverine and on NE-facing slopes, *Larix sibirica*, *Lonicera*, few *Pinus*, 2215 m a.s.l., sifting leaf litter and moss over 80 m, 26.VII.2018, all leg. V.G., M.M., V.L.; 2 juv. (ASU), same Republic and District, 47 air-km ESE of Belyashi (=Dzhazator), valley of Zhumaly River, 49.51326°N, 88.01883°E, *Betula rotundifolia* thicket, 2340 m a.s.l., in moss, under stones, 27.VII.2018; 6 juv. (ASU), near s.l., 49. 51252°N, 88.01705°E, rocky plateau with *Dryas* patches on E slope, 2415 m a.s.l., under stones, 27.VII.2018, all leg. P.N.; 1 juv. (ASU), near s.l., 49°30.020'N, 88°07.328'E, bottom of small ravine, 2590 m a.s.l., sifting soil next to snow patch, dead grass, and leaf litter and moss under *Betula rotundifolia* patches over 20 m, 27.VII.2018, leg. V.G., M.M., V.L.; 3 juv. (ASU), same Republic and District, 14 air-km W of Belyashi (=Dzhazator), valley of Koksu River, left bank, 49.70599°N, 87.21581°E, *Picea obovata* forest with *Caragana arborescens*, *Vaccinium vitis-idaea* and green moss, ca 1605 m a.s.l., 28.VII.2018; 1 juv. (ASU), near s.l., cliff edge on left bank of Koksu River, 49.71032°N, 87.22144°E, mixed forest with *Larix sibirica*, *Pinus sibirica*, *Betula pendula* and *Populus tremula* with *Bergenia crassifolia* and low grasses on rocks, 1670 m a.s.l., under stones, 28.VII.2018, all leg. P.N.; 1 juv. (ASU), near s.l., 49°42.369′N, 87°12.943′E, forest with *Picea obovata* and *Larix sibirica*, ca 1610 m a.s.l., sifting leaf litter and moss over 200 m, 28.VII.2018, leg. V.G., M.M., V.L.; 1 ♂, 4 ♀♀ (PSU-1003), same Republic and District, 26 air-km NNW of Belyashi (=Dzhazator), valley of Karagem River, floodplain, 49.88593°N, 87.19024°E, riverine *Populus* forest with *Larix sibirica*, ca 1355 m a.s.l., in litter, 29.VII.2018; 3 juv. (ASU), near s.l., W macroslope of Yuzhno-Chuiskii Mt. Range, 49.88531°N, 87.19548°E, moraines on left bank of Karagem River, *Larix sibirica* forest with *Caragana arborescens*, ca 1385 m a.s.l., in litter and in moss, 29. VII.2018; 1 ♀ (ASU), near s.l., 49.88080°N, 87.20740°E, *Larix sibirica* forest on W slope in brook valley, ca 1590 m a.s.l., in moss, 29.VII.2018; 1 ♀ (ASU), same Republic and District, 21 air-km NW of Belyashi (=Dzhazator), S macroslope of Yuzhno-Chuiskii Mt. Range, ford on Karasu River, 49.83549°N, 87.20798°E, *Pinus sibirica* and *Picea obovata* forest with *Betula pendula*, *Alnus*, *Caragana*, *Ribes nigrum*, small grass vegetation and green mosses,

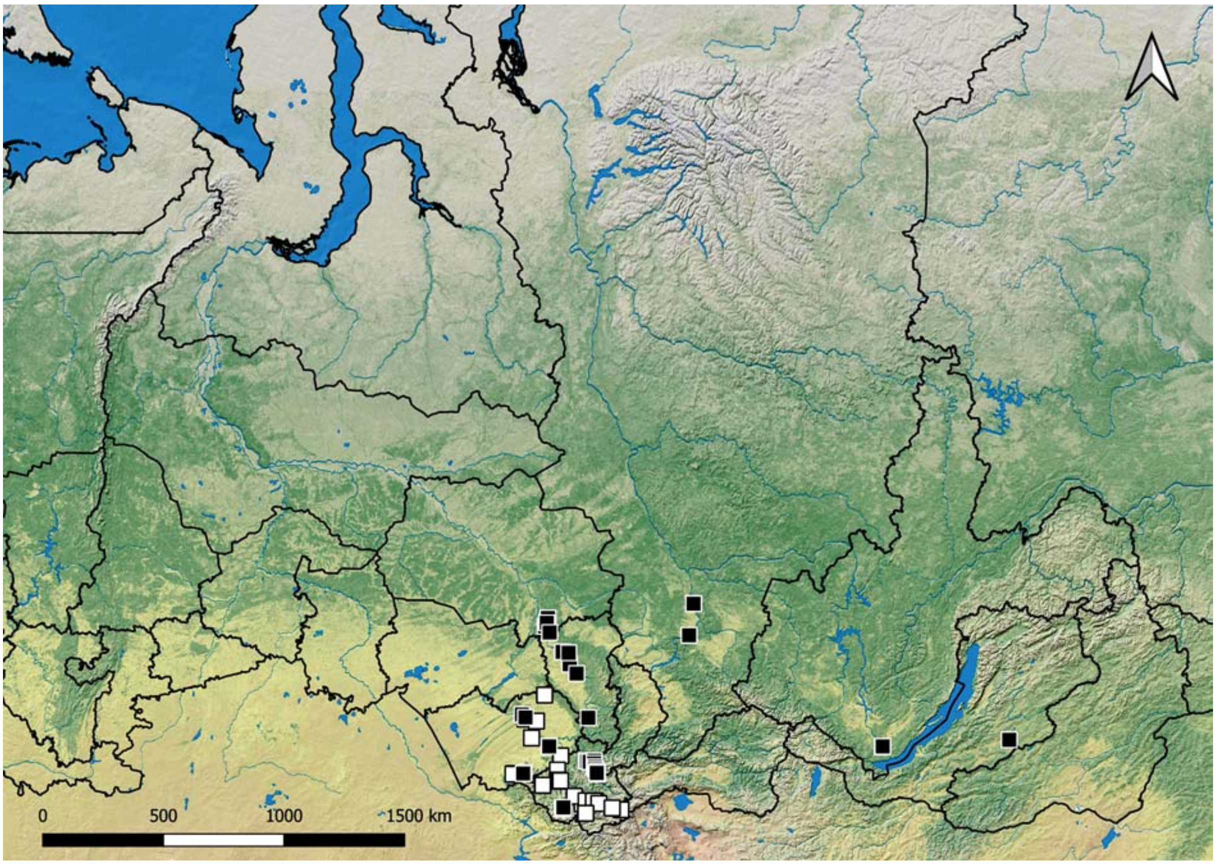


Fig. 4. Distribution of *Lithobius* (*Ezembius*) *sibiricus* Gerstfeldt, 1859 in Siberia. Previously known localities marked in black, new records given in white.

Рис. 4. Распространение *Lithobius* (*Ezembius*) *sibiricus* Gerstfeldt, 1859 в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

ca 1605 m a.s.l., 29.VII.2018, all leg. P.N.; 1 ♂, 1 juv. (ASU), near s.l., 49°50.122′N, 87°12.493′E, forest with *Pinus sibirica* and *Larix sibirica*, large trees, 1590 m a.s.l., sifting leaf litter and moss over 50 m, 29.VII.2018, leg. V.G., M.M., V.L.; 1 juv. (ASU), same Republic and District, 12 air-km ESE of Belyashi (=Dzhazator), 49.67064°N, 87.59399°E, *Picea obovata* and *Larix sibirica* forest, ca 1635 m a.s.l., under stones and in litter, 30.VII.2018; 7 juv. (ASU), same Republic and District, 13.5 air-km ESE of Belyashi (=Dzhazator), valley of Uzurgu River (=Tenektybulak/Terektybulak River), 49.66981°N, 87.60945°E, *Larix sibirica* and *Picea obovata* forest with *Pinus sibirica*, ca 1635 m a.s.l., under stones, 30.VII.2018; 2 ♀♀, 12 juv. (ASU), same Republic and District, 8 air-km NNE of Kosh-Agach, Kurai Mt. Range, valley of Tabozhok River, foot of NW slope of Mt Tabozhok, 50.07596°N, 88.72931°E, *Larix sibirica* forest with *Alnus*, ca 2065 m a.s.l., under stones, all leg. P.N.; near s.l., 50°04.607′N, 88°43.745′E, dry ravine with spring surrounded by bushes, ca 2050 m a.s.l., sifting litter, dead grass and moss near spring over 200 m, 31.VII.2018, leg. V.G., M.M., V.L.; 2 juv. (ASU), same Republic, Ust-Kan District, 2 air-km SW of Ust-Kan, valley of Kutergen River, 50.90546°N, 84.73464°E, *Picea obovata* forest with *Spiraea* and green mosses on left river bank, ca 1180 m a.s.l., in and under moss, covering big stones, 19.VIII.2018, leg. P.N.

DISTRIBUTION. Being originally described by Sseliwanoff [1880b] from Irkutsk, central Siberia, this species is widely distributed in European Russia [Zalesskaja, 1978], Ukraine [Chornyi, Kosyanenko, 2003], and the Urals [Farzalieva, Esyunin, 2008], as well as in Eastern Kazakhstan [Tuf, 2007; Tuf *et al*., 2010; Dyachkov, 2017b, 2019]. In Asian Russia, *L.* (*E.*) *proximus* has previously been known from the Republic of Buryatia [Alekseeva, 1974], the Altai Province [Zalesskaja, 1978; Nefediev *et al*., 2018], the Tyumen Area [Striganova, Poryadina, 2005; Sergeeva, 2010, 2013; Bukhkalo, Sergeeva, 2012; Bukhkalo *et al*., 2014], the Krasnoyarsk Province [Vorobiova, 1999; Rybalov, 2002; Vorobiova *et al*., 2002], the Republic of Altai [Nefediev *et al*., 2017], the Kemerovo Area [Nefediev *et al*., 2020], the Maritime Province and the Sakhalin Area [Molodova, 1972; Kurcheva, 1977]. *Lithobius* (*E.*) *proximus* has recently reported in the Wigry National Park, Poland [Wytwer, Tajovský, 2019], this representing the westernmost record of the species.

REMARKS. According to the literature data, in the Republic of Altai, this species has previously been reported only from the NE part of this area (i.e. the environs of Lake Teletskoye), whilst the new records expand its distribution area to the whole territory of the Republic.

Lithobius (*Ezembius*) *sibiricus* Gerstfeldt, 1859
Map 4.

Lithobius sibiricus Gerstfeldt, 1859: 275.

Lithobius affinis Sseliwanoff, 1880b: 20.

Lithobius sibiricus — Sseliwanoff, 1880a: 542; 1881a: 5, inset: fig; Alekseeva, 1974: 8; Eason, 1976: 115, 116: figs; Zalesskaja, 1978: 124, figs; Vorobiova, 1999: 33; Nefediev, 2001: 85; Vorobiova *et al*., 2002: 61; Nefediev, Aripov, 2013: 40.

Monotarsobius sibiricus — Attems, 1909: 18.

Lithobius (*Ezembius*) *sibiricus* — Nefediev *et al*., 2016: 263, 264: map; 2017a: 219, 218: map; 2017b: 13; 2017c: 118; 2020: 39, map; Dyachkov, 2017b: 454.

non *Lithobius sibiricus* — Haase, 1880: 223.

MATERIAL EXAMINED. 1 ♂, 1 ♀ (ASU), Russia, **Altai Province**, Barnaul, Yuzhnyi, mixed forest, 27.VI.2010; 2 ♂♂, 1 ♀, 1 juv. (ASU), same Province, Altaiskoye District, ca 5 air-km NW of Aya, Lake Aichionok, *Betula pendula* patch on bank, in litter, 6.VII.2010, all leg. P.N.; 1 ♀ (ASU), same Province, Troitskoye District, near Chervyanka, young *Pinus sylvestris* forest, p.t., 15–24.VIII.2016, leg. N.V.; 12 ♂♂, 13 ♀♀, 1 juv. (PSU-1280), same Province, Kosikha District, near Ozero-Krasilovo, ASU Field Station, Lake Krasilovo, *Pinus sylvestris*, *Betula pendula* and *Populus tremula* forest with tall grass vegetation, p.t., 30.VI.–5.VII.2014; 7 ♂♂, 1 ♀ (PSU-1274), s.l., p.t., 5–10.VII.2014, all leg. P.N.; 1 ♀, 1 juv. (ASU), same Province, Krasnoshchiokovo District, near Chineta, Chineta Nature Reserve, floodplain of Inya River, near bridge on left bank, 51°20′20.2″N, 83°02′16.0″E, S*alix* with *Caragana arborescens* and *Lonicera tatarica*, 365 m a.s.l., litter, 6.VI.2015; 2 juv. (ASU), same Province and District, near Chineta, Chineta Nature Reserve, 51°19′N, 83°00′E, *Betula pendula*, *Pinus sylvestris*, *Populus tremula* with *Caragana arborescens* and *Lonicera tatarica*, on slope of hill, 480 m a.s.l., litter, 6.VI.2015, all leg. P.N., J.N.; 1 juv. (ASU), same Republic, Zalesovo District, near Peshchiorka, 54°05′00″N, 84°49′31″E, *Populus tremula* forest with *Betula pendula* and *Salix*, 240 m a.s.l. 9.IX.2015, leg. P.N.; 1 ♀ (ASU), Russia, **Republic of Altai**, Ulagan District, near Aktash, N slope of Mt Belkenek behind Mionka River, 50.305420°N, 87.589075°E, *Picea obovata* forest with *Pinus sibirica* and *Larix sibirica*, 1345 m a.s.l., in litter, 16.VII.2006; 1 ♀ (ASU), near s.l., old fire-site overgrown with young *Betula pendula* forest with *Ribes nigrum*, 2.VIII.2006; 1 ♂ (PSU-1243), same Republic and District, ca 9 air-km SE of Aktash, near Mt Baratal, valley of Chuya River, *Betula pendula* and *Picea obovata* forest, 1510 m a.s.l., 20.VII.2006; 1 ♀ (PSU-1237), same Republic, Kosh-Agach District, 15.5 air-km S of Belyi Bom, 50.229991°N, 87.002996°E, under *Juniperus* on cliff, 1725 m a.s.l., 22.VII.2006, all leg. P.N., J.N.; 1 ♂, 2 ♀♀ (ASU), same Republic, Shebalino District, ca 10 km S of Cherga on Chuya Tract, *Betula pendula* and *Larix sibirica* forest, p.t., 21.VII.2006; 11 ♂♂, 11 ♀♀, 1 juv. (PSU-1271), same Republic, Ongudai District, Bolshoi Yaloman River, ca 2 km upstream from mouth, *Betula pendula* and *Populus* floodplain forest, p.t., 23.VII.2006, all leg. M.S.; 9 ♂♂, 9 ♀♀, 9 juv. (PSU-1032), same Republic, Shebalino District, 10 air-km NE of Seminskii Pass, Seminskii Mt. Range, summit of Mt Sarlyk, 51°04.633′N, 85°44.134′E, rocky desert with patches of mountain tundra, under stones, 2505 m a.s.l., 21.VII.2018; 2 ♀♀ (PSU-1025), same Republic, Ongudai District, ca 4 km SE of Topuchaya, 51°05.990′N, 85°37.433′E, near spring, under logs and stones, ca 1270 m a.s.l., 22.VII.2018, all leg. P.N.; 3 ♂♂, 5 ♀♀, 7 juv. (PSU-1027), same Republic and District, ca 7.5 air-km NEE of Seminskii Pass, Seminskii Mt. Range, near Mt Sarlyk, 51°03.754′N, 85°42.523′E, alpine meadow with sparse *Larix sibirica*, under stones, 1970 m a.s.l., 21.VII.2018, leg. P.N., V.G.; 1 ♀ (PSU-1007), near s.l., 51° 03.964′N, 85°42.421′E, forest patch with *Pinus sibirica* and *Picea obovata*, small gaps, rocky, *Betula rotundifolia*, ca 1990 m a.s.l., sifting leaf litter and moss over 120 m, 21.VII.2018, leg. V.G., M.M., V.L.; 4 ♂♂, 4 ♀♀, 6 juv. (PSU-1028), same Republic and District, 10.5 air-km NE of Seminskii Pass, Seminskii Mt. Range, foot of Mt Sarlyk, Lakes Tuyukskiye, 51°04.547'N, 85°44.560'E, mountain tundra, under stones, ca 2230 m a.s.l., 21.VII.2018, leg. P.N.; 1 ♂ (PSU-1023), same Republic and District, floodplain of Chuya River, near Shirlak Waterfall, 50.34461°N, 87.22323°E, *Betula pendula* forest on river bank, 1015 m a.s.l., 23.VII.2018, leg. V.G.; 3 ♂♂, 3 ♀♀, 2 juv. (ASU), near s.l., right bank of Chuya River, 50°20.615′N, 87°13.335′E, *Betula* forest with *Larix sibirica*, *Caragana arborescens*, small grass vegetation and green mosses, ca 1015 m a.s.l., 23.VII.2018; 1 juv. (ASU), near s.l., 50°20. 650′N, 87°13.338′E, *Betula pendula* and *Picea obovata* forest, green mosses, ca 1035 m a.s.l., 23.VII.2018; 1 ♂, 2 ♀♀, 2 juv. (ASU), near s.l., environs of Shirlak Waterfall, along Tektu River down the waterfall, 50°20.725′N, 87°13.149′E, *Betula pendula* forest with *Alnus*, ca 1080 m a.s.l., 23.VII.2018, all leg. P.N.; 2 juv. (ASU), same Republic, Ulagan District, 10 air-km ENE of Aktash, Kurai Mt. Range, summit with retranslator, 50.33958°N, 87. 74865°E, rocky mountain tundra, ca 2970 m a.s.l., under stones, 23.VII.2018, leg. P.N., V.G., M.M., V.L.; 1 ♀, 1 juv. (ASU), near s.l., near summit with retranslator, 50.32598°N, 87.73575°E, alpine meadow with rich herbaceous vegetation, Poaceae, *Dryas*, moss and lichens, ca 2570 m a.s.l., under stones, 23.VII.2018, leg. P.N.; 1 ♂, 1 juv. (ASU), same Republic and District, 3.5 air-km NE of Aktash, valley of Yarlyamry River, 50°20.027'N, 87°38.945'E, forest with *Picea obovata*, *Larix sibirica*, *Pinus sibirica*, *Caragana arborescens*, *Lonicera*, *Ribes nigrum*, moss, 1575 m a.s.l., sifting leaf litter and moss over 50 m, 24.VII.2018, leg. V.G., M.M., V.L.; 5 ♂♂, 1 ♀ (ASU), same Republic, Kosh-Agach District, 2 air-km NE of Kurai, valley of Kuraika River, left bank, 1.5–2 air-km up the river from Chuya Tract, 50.24651°N, 87.95520°E, riverine *Larix sibirica* forest, ca 1590 m a.s.l., under stones and in litter, 24.VII.2018, leg. P.N., V.G.; 1 ♂, 1 ♀, 1 juv. (ASU), same Republic and District, 20 air-km NE of Kokorya, Chikhachiova Mt. Range, Talduair massif, right bank of Sailyugem River, 50.01802°N, 89.23557°E, floodplain *Larix sibirica* forest, 2225 m a.s.l., under stones, 26.VII.2018, leg. P.N., M.M., V.L.; 1 juv. (ASU), same Republic and District, 26 air-km NNW of Belyashi (=Dzhazator), valley of Karagem River, floodplain, 49.88593°N, 87.19024°E, riverine *Populus* forest with *Larix sibirica*, ca 1355 m a.s.l., in litter, 29.VII.2018; 1 juv. (ASU), near s.l., W macroslope of Yuzhno-Chuiskii Mt. Range, 49.88531°N, 87.19548°E, moraines on left bank of Karagem River, *Larix sibirica* forest with *Caragana arborescens*, ca 1385 m a.s.l., in litter and in moss, 29. VII.2018; 1 juv. (ASU), near s.l., 49.88194°N, 87.20650°E, *Larix sibirica* and *Picea obovata* forest with *Caragana arborescens*, *Alnus* and green mosses, ca 1560 m a.s.l., under stones and in moss, 29.VII.2018; 1 ♀ (ASU), near s.l., 49.88080°N, 87.20740°E, *Larix sibirica* forest on W slope in brook valley, ca 1590 m a.s.l., in moss, 29.VII.2018; 1 ♂, 1 juv. (ASU), same Republic and District, 8 air-km NNE of Kosh-Agach, Kurai Mt. Range, valley of Tabozhok River, foot of NW slope of Mt Tabozhok, 50.07596°N, 88.72931°E, *Larix sibirica* forest with *Alnus*, ca 2065 m a.s.l., under stones, all leg. P.N.; 1 ♂, 3 juv. (ASU), same Republic, Ust-Kan District, 2 air-km SW of Ust-Kan, valley of Kutergen River, 50.90546°N, 84.73464°E, *Picea obovata* forest with *Spiraea* and green mosses on left river bank, ca 1180 m a.s.l., in and under moss, covering big stones, 19.VIII.2018; 1 ♂, 2 ♀♀ (ASU), same Republic and District, 2.5 air-km SW of Ust-Kan, 50.91489°N, 84.71967°E, *Betula pendula* and *Larix sibirica* forest with *Pinus sibirica*, *Alnus*, *Cotoneaster*, *Rosa spinosissima* and tall grass vegetation on S slope, 1450 m a.s.l., in green moss, 19.VIII.2018, all leg. P.N.

DISTRIBUTION. A trans-Siberian species, *L.* (*E.*) *sibiricus* is widespread in the Asian part of Russia and northern Mongolia [Gerstfeldt, 1859; Sseliwanoff, 1880a, b, 1881a; Attems, 1909; Molodova, 1972; Alekseeva, 1974; Eason, 1976; Kurcheva, 1977; Zalesskaja, 1978; Vorobiova, 1999; Nefediev, 2001; Vorobiova *et al*., 2002; Nefediev, Aripov, 2013; Poloczek *et al*., 2016; Nefediev *et al*., 2016, 2017a, b, c, 2018, 2020; Dyachkov, 2017a, b].

REMARKS. The above abundant new records of this species clarify its distribution area in SW Siberia.

Lithobius vagabundus Stuxberg, 1876
Map 5.

Lithobius vagabundus Stuxberg, 1876a: 28, 29: fig, 1876b: 314.

Lithobius vagabundus — Eason, 1976: 111, 112–113: figs; Zalesskaja, 1978: 166, 167: figs; Nefediev, Aripov, 2013: 41; Nefediev *et al*., 2017b: 13; 2018: 236.

Lithobius cf. *vagabundus* — Nefediev *et al*., 2017a: 219, 218: map.

non *Lithobius vagabundus* pro parte — Stuxberg, 1876a: 28, 29: fig, 1876b: 314.

non *Lithobius vagabundus* — Muralewitsch, 1906: 69.

MATERIAL EXAMINED. 2 juv. (ASU), Russia, **Republic of Altai**, Ulagan District, 15 air-km NNW of Aktash, near Lake

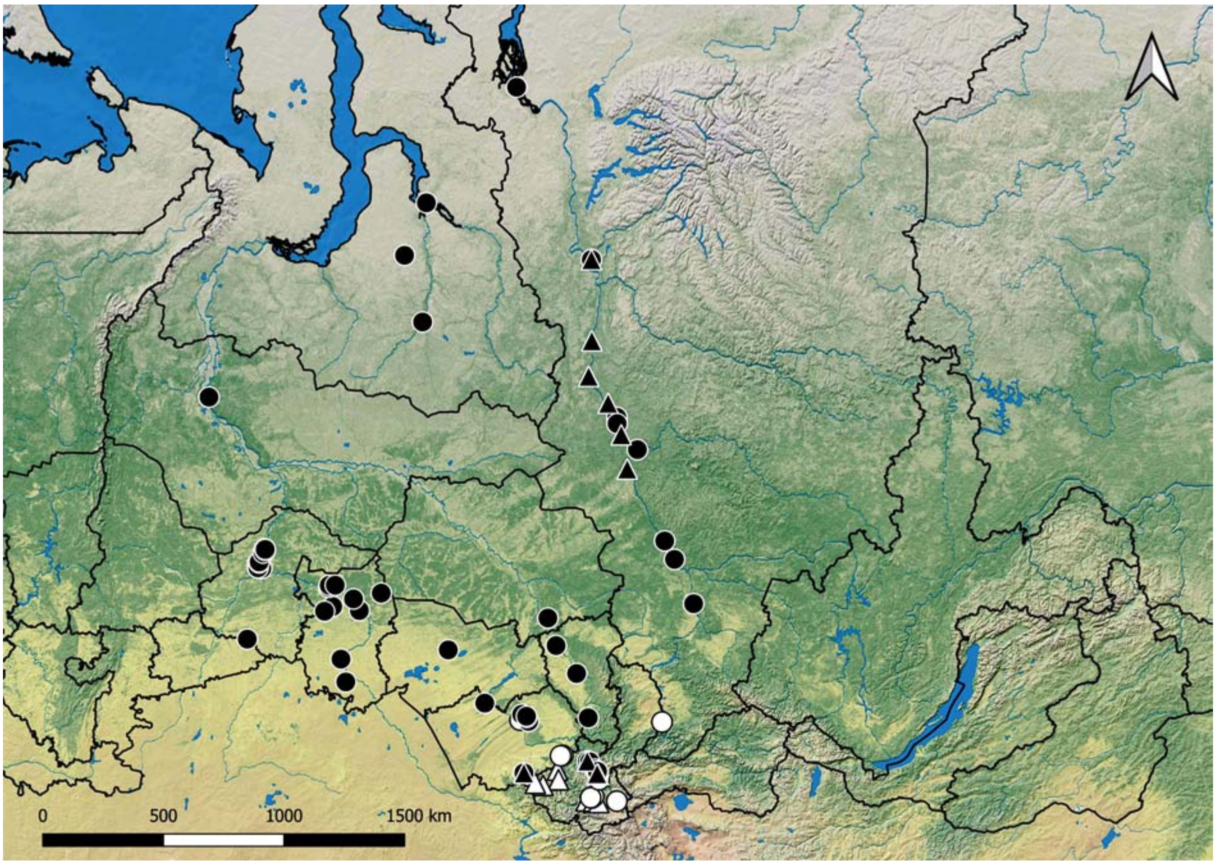


Fig. 5. Distributions of *Lithobius vagabundus* Stuxberg, 1876 (triangle) and *L.* (*Monotarsobius*) *curtipes* C.L. Koch, 1847 (circle) in Siberia. Previously known localities marked in black, new records given in white.

Рис. 5. Распространение *Lithobius vagabundus* Stuxberg, 1876 (треугольник) и *L.* (*Monotarsobius*) *curtipes* C.L. Koch, 1847 (круг) в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

Taldukiol, 50.442204°N, 87.535498°E, sparse *Larix sibirica* forest with *Betula rotundifolia*, 1840 m a.s.l., soil sample (0–10 cm deep), 17–18.VII.2006; 1 ♀ (PSU-1238), same Republic and District, 5.5 air-km SE of Aktash, Starye Miony, near Kara-Tyt Spring, floodplain of Mionka River, 50.281032°N, 87.680762°E, *Picea obovata* forest with green mosses, 1410 m a.s.l., 20.VII.2006; 1 ♂ (PSU-1241), 3 ♀♀, 1 juv. (ASU), same Republic and District, ca 21 air-km N of Aktash, Ulagan Pass, 50.501562°N, 87.655555°E, sparse *Pinus sibirica* forest with *Betula rotundifolia*, in moss, ca 2065 m a.s.l., 31.VII.2006; 1 ♀ (ASU), same Republic and District, ca 18 air-km NNW of Aktash, E part of Lake Sorulukiol, 50. 456706°N, 87.486864°E, *Betula rotundifolia* with *Carex* on slope near lake shore, 1825 m a.s.l., 13.VIII.2007, all leg. P.N., J.N.; 1 ♂ cf. *vagabundus* (ASU), same Republic, Shebalino District, ca 10 km S of Cherga on Chuya Tract, *Betula pendula* and *Larix sibirica* forest, p.t., 21.VII.2006, leg. M.S.; 1 ♂ (PSU-1016), same Republic and District, 3.5 air-km SE of Topuchaya, 51.11235°N, 85. 63166°E, mixed herbaceous meadow, ca 1435 m a.s.l., p.t., 20–22. VII.2018, leg. P.N.; 2 ♂♂, 2 ♀♀, 8 juv. (PSU-1020), 6 ♀♀, 5 juv. (ASU), near s.l., 51.11189°N, 85.63219°E, *Betula pendula*, *Larix sibirica*, *Pinus sibirica* and *Picea obovata* forest with *Alnus*, *Lonicera*, *Ribes nigrum* and tall grass vegetation on hummocks, along brook, ca 1435 m a.s.l., b.h., sifted leaf litter, p.t., 20–22.VII. 2018, leg. P.N., V.G., M.M., V.L.; 1 ♂, 1 ♀ (ASU), same Republic, Ongudai District, 20 air-km W of Chibit, valley of Chuya River, near Shirlak Waterfall, right bank of Chuya River, 50°20.615′N, 87°13.335′E, *Betula* forest with *Larix sibirica*, *Caragana*, short-grass vegetation and green mosses, ca 1015 m a.s.l., 23.VII.2018; 1 ♀ (ASU), near s.l., environs of Shirlak Waterfall, along Tektu River down the waterfall, 50°20.725′N, 87°13.149′E, *Betula pendula* forest with *Alnus*, ca 1080 m a.s.l., 23.VII.2018, all leg. P.N.; 1 ♀ (ASU), near s.l., 50°20.690′N, 87°13.213′E, *Betula* grove along creek, ca 1080 m a.s.l., sifting leaf litter over 40 m, 23.VII.2018; 4 ♂♂, 1 juv. (PSU-1005), same Republic, Ulagan District, 4 air-km NE of Aktash, valley of Yarlyamry River, 50°19.912'N, 87°39.539'E, forest with *Picea obovata*, *Pinus sibirica*, *Larix sibirica*, *Vaccinium vitis-idaea*, *Equisetum*, *Lonicera*, ca 1640 m a.s.l., sifting leaf litter and moss over 50 m, 24.VII.2018, all leg. V.G., M.M., V.L.; 4 juv. cf. *vagabundus* (ASU), near s.l., 50.33167°N, 87.65897°E, *Picea obovata* taiga forest with *Larix sibirica*, *Vaccinium vitis-idaea* and *Alnus*, ca 1615 m a.s.l., in green mosses, 24.VII.2018; 1 juv. (ASU), same Republic, Kosh-Agach District, 5.5 km NNE of Kurai, S macroslope of Kurai Mt. Range, valley of Kuraika River, left river bank, 50.28225°N, 87.95463°E, *Larix sibirica* and *Picea obovata* forest with *Pinus sibirica*, *Caragana*, small grass vegetation and green mosses, ca 1790 m a.s.l., in moss, under logs, 25.VII.2018; 1 juv. (ASU), same Republic, Ust-Kan District, 1.7 air-km SW of Ust-Kan, 50.91142°N, 84.73499°E, *Betula pendula* and *Picea obovata* forest with green moss o N slope, ca 1180 m a.s.l., in green moss and rotten trunk, 19.VIII.2018, all leg. P.N.; 1 ♀, 1 juv. (PSU-1006), Russia, **Altai Province**, Charyshskoye District, 5 air-km S of Ust-Kumir, valley of Kumir River, 50°59.140′N, 84°17.392′E, meadow with tall herbaceous vegetation, ca 790 m a.s.l., p.t., 31.VII.–01.VIII.2018, leg. V.G., M.M., V.L.

DISTRIBUTION. This species was originally described by Stuxberg from the Yenisei River region, Krasnoyarsk Province, central Siberia [Stuxberg, 1876a, b]. A century later, *Lithobius vagabundus* was redescribed from type material, with lectotype designation [Eason, 1976]. The record

of this species from the Kanin Peninsula, Nenets Autonomous Region [Muralewitsch, 1906] is a misidentification (see Eason [1976]). It has recently been found in the Altai Province [Nefediev *et al*., 2017b, 2018] and provisionally in the Republic of Altai [Nefediev *et al*., 2017a], both SW Siberia.

REMARKS. The abundant new records of *L. vagabundus* cover the central, SE and SW parts of the Republic of Altai.

Lithobius (*Monotarsobius*) *curtipes* C.L. Koch, 1847 Map 5.

Lithobius captivus Stuxberg, 1876a: 29; 1876b: 314.

Lithobius captivus — Eason, 1976: 115, fig.

Monotarsobius curtipes — Zalesskaja, 1978: 178, 180: figs; Vorobiova, 1999: 33; Rybalov, 2002: 82; Vorobiova *et al*., 2002: 61; Striganova, Poryadina, 2005: 226.

Lithobius curtipes — Sergeeva, 2010: 37; Bukhkalo, Sergeeva, 2012: 61; Sergeeva, 2013: 530; Bukhkalo *et al*., 2014: 71.

Lithobius (*Monotarsobius*) *curtipes* — Sergeeva, 2010: 38; Nefediev *et al*., 2016: 263, 260: map; 2017a: 219, 218: map; 2017b: 13; 2017c: 116, 117: map; 2018: 232; Nefediev *et al*., 2020: 41, 40: map.

MATERIAL EXAMINED. 1 ♀ (ASU), Russia, **Republic of Altai**, Ulagan District, 15 air-km NNW of Aktash, Lake Taldukiol, 50.443294°N, 87.534489°E, sparse *Larix sibirica* forest with *Betula rotundifolia*, ca 1840 m a.s.l., in litter and moss, 18.VII.2006; 2 ♀♀, 2 juv. (ASU), same Republic and District, Kalbakaya River, *Betula rotundifolia*, in moss, 25.VII.2006; 5 ♂♂, 1 ♀ (PSU-1246), same Republic and District, ca 21 air-km N of Aktash, Ulagan Pass, 50.501562°N, 87.655555°E, sparse *Pinus sibirica* forest with *Betula rotundifolia*, in moss, ca 2065 m a.s.l., 31.VII.2006; 1 ♂ (ASU), same Republic and District, ca 18 air-km NNW of Aktash, E part of Lake Sorulukiol, 50.456706°N, 87.486864°E, *Betula rotundifolia* with *Carex* on slope near lake shore, 1825 m a.s.l., 13.VIII.2007; 3 ♂♂, 2 ♀♀, 1 juv. (ASU), same Republic and District, Altai State Nature Reserve, Stone Mushrooms (= Akkurum), 51°06′40″N, 87°58′33″E, *Betula pendula* patch between two groups of rocks, 730 m a.s.l., 5.VII.2016, all leg. P.N., J.N.; 1 ♂ (ASU), same Republic, Maima District, Maima, bank of Maima River sleeve, 51.988804°N, 85.872340°E, *Salix* and *Acer negundo* with ruderal vegetation, ca 260 m a.s.l., under stones, 20.VII.2018, leg. P.N.; 1 ♀ (ASU), Russia, **Altai Province**, Barnaul, Yuzhnyi, mixed forest, 27.VI.2010; 1 ♀ (ASU), same Province, Altaiskoye District, ca 5 air-km NW of Aya, Lake Aichionok, *Betula pendula* patch on slope of Mt Tipeshka, in litter, 7.VII.2010, all leg. P.N.; 1 ♂ 3 ♀♀ (ASU), same Province, Kalmanka District, between Stukovo and Shtabka, *Pinus sylvestris* forest with *Betula pendula*, 28.VIII.2017, leg. P.N., A.N.; 2 ♂♂, 2 ♀♀ (PSU-824), Russia, **Republic of Khakassia**, Altai District, Ochurskii Bor, 53°09′33.5″N, 91°36′35.9″E, *Pinus sylvestris* forest, 30.IX.2008, leg. D.P.

DISTRIBUTION. A trans-Palaearctic species, *L.* (*M.*) *curtipes* shows an extremely wide distribution area in Europe, the Urals, the Near East, the Arabian Peninsula, the Asian part of Russia, Kazakhstan, and also in northern Mongolia [Dobroruka, 1960; Zalesskaja, 1978; Farzalieva, Esyunin, 2008; Bonato *et al*., 2016; Poloczek *et al*., 2016; Dyachkov, 2019]. In Siberia, this species has previously been recorded from the Altai and Krasnoyarsk provinces, the Novosibirsk, Omsk, Tyumen and Tomsk areas, the Khanty-Mansi Autonomous and Yamalo-Nenets Autonomous regions, and the Republic of Altai [Zalesskaja, 1978; Vorobiova, 1999; Rybalov, 2002; Vorobiova *et al*., 2002; Striganova, Poryadina, 2005; Sergeeva, 2010, 2013; Bukhkalo, Sergeeva, 2012; Nefediev *et al*., 2016, 2017a, b, c, 2018], recently also from the Kemerovo Area [Nefediev *et al*., 2020].

REMARKS. This species is formally recorded from the Republic of Khakassia for the first time.

Lithobius (*Monotarsobius*) *franciscorum* Dányi et Tuf, 2012 Map 6.

Lithobius (*Monotarsobius*) *franciscorum* — Nefediev *et al*., 2017a: 220, map; Dyachkov, 2017b: 454.

MATERIAL EXAMINED. 1 ♀ (ASU), Russia, **Republic of Altai**, Ongudai District, ca 3.5 air-km SW of Belyi Bom, valley of Syrnakh River, 50.347834°N, 86.998210°E, along the road to Shavla Nature Reserve, *Ribes nigrum*, 1165 m a.s.l., 21.VII.2006; 1 ♀ (ASU), same Republic, Kosh-Agach District, ca 15 air-km S of Belyi Bom, patch of *Larix sibirica* forest, 50.233899°N, 87.004114°E, 1810 m a.s.l., 22.VII.2006; 1 ♂, 1 ♀, 4 juv. (PSU-1190), same Republic, Ulagan District, ca 21 air-km N of Aktash, Ulagan Pass, 50.501562°N, 87.655555°E, sparse *Pinus sibirica* forest with *Betula rotundifolia*, in moss, ca 2065 m a.s.l., 31.VII.2006; 1 ♀ (ASU), same Republic and District, ca 9 km N of Aktash, 50.382399°N, 87.620410°E, *Pinus sibirica* forest on slope, 1840 m a.s.l., 31.VII.2006; 3 ♀♀ (PSU-1278), same Republic, Ongudai District, Seminskii Pass, 51.047968°N, 85.607156°E, sparse *Pinus sibirica* forest, 1700 m a.s.l., 6.VII.2016, all leg. P.N., J.N.; 3 ♂♂, 2 ♀♀, 1 juv. (ASU), same Republic, Shebalino District, 3.5 air-km SE of Topuchaya, 51.11235°N, 85.63166°E, mixed herbaceous meadow, ca 1435 m a.s.l., p.t., 20–22.VII.2018, leg. P.N.; 2 ♂♂, 2 ♀♀, 8 juv. (PSU-1020), 6 ♀♀, 5 juv. (ASU), near s.l., 51.11189°N, 85.63219°E, *Betula pendula*, *Larix sibirica*, *Pinus sibirica* and *Picea obovata* forest with *Alnus*, *Lonicera*, *Ribes nigrum* and tall grass vegetation on hummocks, along brook, ca 1435 m a.s.l., b.h., sifted leaf litter, p.t., 20–22.VII.2018, leg. P.N., V.G., M.M., V.L.; 1 ♂, 1 ♀ (PSU-1031), same Republic, Shebalino District, 10 air-km NE of Seminskii Pass, Seminskii Mt. Range, summit of Mt Sarlyk, 51°04.633′N, 85°44.134′E, rocky desert with patches of mountain tundra, under stones, 2505 m a.s.l., 21.VII.2018, leg. P.N.; 1 ♂ (ASU), same Republic, Ongudai District, ca 7.5 air-km NEE of Seminskii Pass, Seminskii Mt. Range, near Mt Sarlyk, 51°03.737′N, 85°42.492′E, alpine meadow belt, patches of *Betula rotundifolia*, *Salix*, dwarf *Juniperus*, sparse *Picea obovata* and *Larix sibirica* woodland, ca 1955 m a.s.l., sifting leaf litter and moss over 80 m, 21.VII.2018, leg. V.G., M.M., V.L.; 1 ♂ (PSU-1030), same Republic and District, 10.5 air-km NE of Seminskii Pass, Seminskii Mt. Range, foot of Mt Sarlyk, Lakes Tuyukskiye, 51°04.547′N, 85°44.560′E, mountain tundra, under stones, ca 2230 m a.s.l., 21.VII.2018; 1 ♀ (ASU), same Republic and District, 20 air-km W of Chibit, valley of Chuya River, near Shirlak Waterfall, right bank of Chuya River, 50°20.615′N, 87°13.335′E, *Betula* forest with *Larix sibirica*, *Caragana*, small grass vegetation and green mosses, ca 1015 m a.s.l., 23.VII.2018; 1 ♂, 1 ♀ (ASU), near s.l., environs of Shirlak Waterfall, along Tektu River down the waterfall, 50°20.725′N, 87°13.149′E, *Betula pendula* forest with *Alnus*, ca 1080 m a.s.l., 23.VII.2018; 1 juv. (PSU-1008), same Republic, Ulagan District, 3 air-km NW of Chibit, foot of SW slope, scattered *Picea obovata* and *Berberis*, 50°20.008′N, 87°27.688′E, ca 1125 m a.s.l., 23.VII.2018, all leg. P.N.; 2 ♂♂, 2 ♀♀, 1 juv. (PSU-1001), same Republic and District, 10 air-km ENE of Aktash, Kurai Mt. Range, summit with retranslator, 50.33958°N, 87.74865°E, rocky mountain tundra, ca 2970 m a.s.l., under stones, 23.VII.2018, leg. P.N., V.G., M.M., V.L.; 1 ♀ (ASU), same Republic and District, 3.5 air-km NE of Aktash, valley of Yarlyamry River, 50°20.027′N, 87°38.945′E, forest with *Picea obovata*, *Larix sibirica*, *Pinus sibirica*, *Caragana arborescens*, *Lonicera*, *Ribes nigrum*, moss, 1575 m a.s.l., sifting leaf litter and moss over 50 m, 24.VII.2018; 1 juv. (ASU), same Republic and District, 4 air-km NE of Aktash, valley of Yarlyamry River, 50°19.912′N, 87°39.539′E, forest with *Picea obovata*, *Pinus sibirica*, *Larix sibirica*, *Vaccinium vitis-idaea*, *Equisetum*, *Lonicera*, ca 1640 m a.s.l., sifting leaf litter and moss over 50 m, 24.VII.2018, all leg. V.G., M.M., V.L.; 1 ♀ (PSU-1026), same Republic, Kosh-Agach District, 14 air-km W of Belyashi (=Dzhazator), valley of Koksu River, left bank, *Picea obovata* forest with *Caragana arborescens*, *Vaccini-*



Fig. 6. Distributions of *Lithobius* (*Monotarsobius*) *franciscorum* Dányi et Tuf, 2012 (circle) and *L.* (*M.*) *fugax* Stuxberg, 1876 (triangle) in Siberia. Previously known localities marked in black, new records given in white.

Рис. 6. Распространение *Lithobius* (*Monotarsobius*) *franciscorum* Dányi et Tuf, 2012 (круг) и *L.* (*M.*) *fugax* Stuxberg, 1876 (треугольник) в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

um vitis-idaea and green moss, 49.70599°N, 87.21581°E, ca 1605 m a.s.l., 28.VII.2018; 1 ♀ (ASU), same Republic and District, 26 air-km NNW of Belyashi (=Dzhazator), valley of Karagem River, W macroslope of Yuzhno-Chuiskii Mt. Range, open W slope with *Spiraea* thicket, 49.88120°N, 87.20644°E, ca 1575 m a.s.l., under stones and in moss, 29.VII.2018; 1 ♀ (ASU), near s.l., 49.88201°N, 87.20499°E, *Larix sibirica* forest with *Alnus* and young *Betula pendula*, 1545 m a.s.l., in green mosses, 29.VII.2018, all leg. P.N.; 1 ♀, 1 juv. (PSU-1010), near s.l., 49°53.237'N, 87°11.520'E, wet ravine along river, forest with *Picea obovata*, *Larix sibirica* and *Populus*, moss, ca 1355 m a.s.l., sifting leaf litter and moss over 100 m, 29.VII.2018, leg. V.G., M.M., V.L.; 1 ♂ (PSU-1015), same Republic and District, 12 air-km ESE of Belyashi (=Dzhazator), 49.67046°N, 87.59002°E, *Picea obovata* forest with green mosses and small grass vegetation, ca 1615 m a.s.l., in litter and in moss, 30.VII.2018, leg. P.N.

DISTRIBUTION. Originally described by Dányi & Tuf [2012] from Eastern Kazakhstan, *L.* (*M.*) *franciscorum* has recently been recorded from the Altai State Nature Biosphere Reserve in the NE part of the Republic of Altai (environs of Lake Teletskoye) [Nefediev *et al*., 2017a], and also from the Katun State Nature Reserve [Dyachkov, 2017b].

REMARKS. The above records expand the distribution area of this species to central and southeastern regions of the Republic of Altai.

Lithobius (*Monotarsobius*) *fugax* Stuxberg, 1876
Map 6.

Lithobius fugax Stuxberg, 1876a: 27, 28: fig.; 1876b: 313.

Monotarsobius fugax — Attems, 1909: 18; Zalesskaja, 1978: 183, figs.

Lithobius fugax — Eason, 1976: 108, 109: figs; Nefediev, Aripov, 2013: 41.

Lithobius (*Monotarsobius*) *fugax* — Nefediev *et al*., 2020: 41, 39: map.

non *Lithobius fugax* — Sseliwanoff, 1881a: 9, inset: fig.

MATERIAL EXAMINED. 1 ♀ (PSU), Russia, **Republic of Altai**, Ulagan District, ca 18 air-km NNW of Aktash, NE part of Lake Sorulukiol, 50.463823°N, 87.485185°E, *Pinus sibirica* forest with *Larix sibirica*, *Vaccinium vitis-idaea*, green mosses, 1890 m a.s.l., 13.VIII.2007, all leg. P.N., J.N.; 1 ♀ cf. *fugax* (PSU-1021), same Republic, Kosh-Agach District, 20 air-km NE of Kokorya, Chikhachiova Mt. Range, Talduair massif, right bank of Sailyugem River, bottom of S slope, 50.01770°N, 89.23775°E, scree with *Astragalus*, *Artemisia*, *Comarum salesovianum*, ca 2245 m a.s.l., under stones lying on bush branches, in herb debris, 26.VII.2018; 1 ♀ cf. *fugax* (ASU), same Republic and District, 47 air-km ESE of Belyashi (=Dzhazator), valley of Zhumaly River, 49.51252°N, 88.01705°E, rocky plateau with *Dryas* patches on E slope, 2415 m a.s.l., under stones, 27.VII.2018, all leg. P.N.;1 ♀ (PSU-815), Russia, **Republic of Khakassia**, Askiz District, valley of Askiz River, 53.419057°N, 89.756044°E, ca 680 m a.s.l., under stones, 4.VIII. 2018, leg. S.D.

DISTRIBUTION. This species was originally described by Stuxberg [1876a, b] from the Yenisei River region, Krasnoyarsk Province, central Siberia, later redescribed with lectotype designation, and synonymized with *Monotarsobius kaszabi* Loksa, 1965, the latter species recorded from

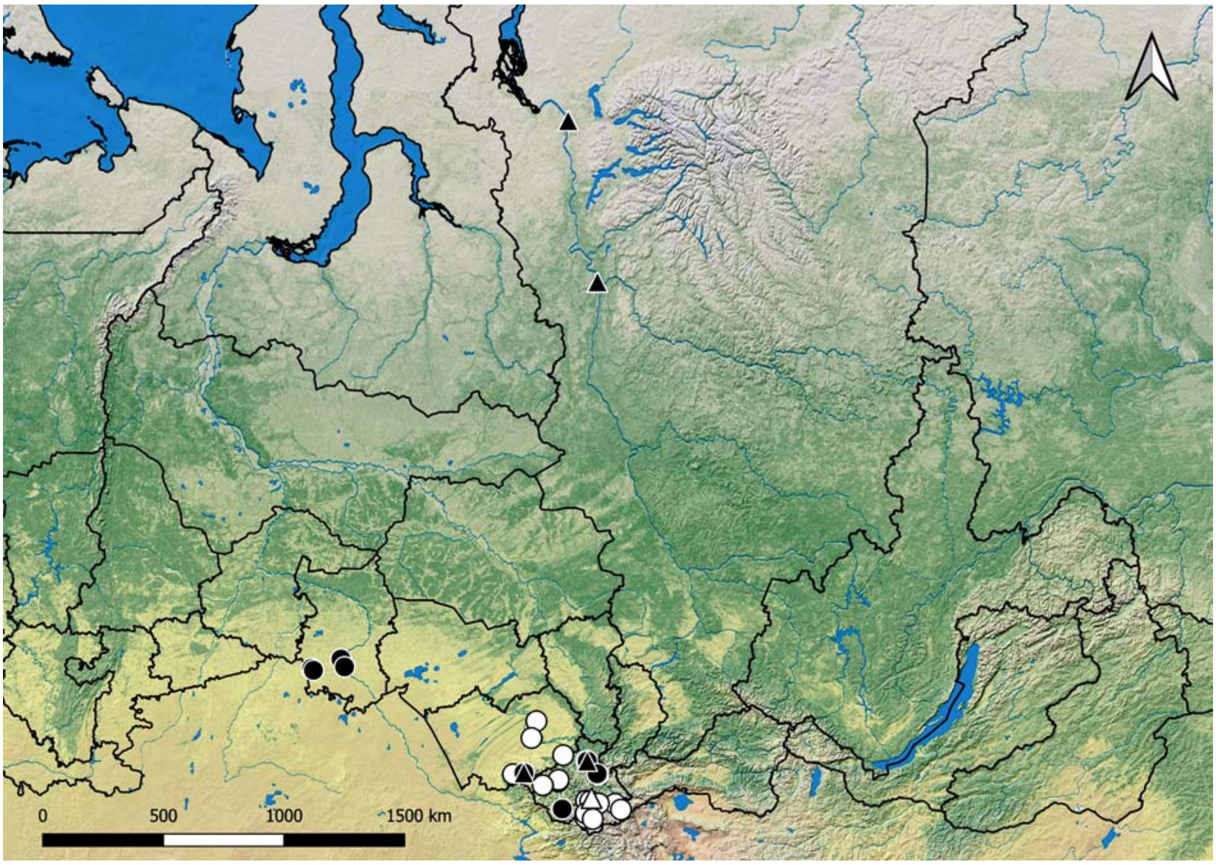


Fig. 7. Distributions of *Lithobius* (*Monotarsobius*) *insolens* Dányi et Tuf, 2012 (circle) and *L.* (*M.*) *nordenskioeldii* Stuxberg, 1876 (triangle) in Siberia. Previously known localities marked in black, new records given in white.

Рис. 7. Распространение *Lithobius* (*Monotarsobius*) *insolens* Dányi et Tuf, 2012 (круг) и *L.* (*M.*) *nordenskioeldii* Stuxberg, 1876 (треугольник) в Сибири. Черным отмечены ранее известные места находок, новые находки отмечены белым.

Mongolia [Eason, 1976]. This species has recently been found in the Kemerovo Area, SW Siberia [Nefediev *et al*., 2020].

REMARKS. *Lithobius* (*M.*) *fugax* has hitherto been recorded neither in the Republic of Altai nor in the Republic of Khakassia, both southwestern Siberia.

Lithobius (*Monotarsobius*) *insolens* Dányi et Tuf, 2012 Map 7.

Lithobius (*Monotarsobius*) *insolens* — Nefediev *et al*., 2017a: 221, 220: map; 2017b: 13; 2017c: 116, 117: map; 2018: 233; Dyachkov, 2017b: 454.

MATERIAL EXAMINED. 1 juv. (ASU), Russia, **Republic of Altai**, Ulagan District, valley of Bashkaus River, *Betula rotundifolia*, b.h., 25.VII.2006; 2 ♂♂, 2 ♀♀ (ASU), same Republic, Maima District, Gorno-Altaisk, floodplain of Maima River, foot of Mt Tugaya, 51.995684°N, 85.902017°E, *Betula pendula* and *Acer negundo*, ca 275 m a.s.l., 9.X.2014; 2 ♂♂, 1 ♀ (PSU-1277), same Republic, Ongudai District, Seminskii Pass, 51.047968°N, 85. 607156°E, sparse *Pinus sibirica* forest, 1700 m a.s.l., 6.VII.2016, all leg. P.N., J.N.; 1 ♀ (ASU), same Republic, Shebalino District, 3.5 air-km SE of Topuchaya, 51.11235°N, 85.63166°E, mixed herbaceous meadow, ca 1435 m a.s.l., b.h., 20.VII.2018, leg. P.N.; 1 ♂, 1 ♀ (ASU), near s.l., 51.11189°N, 85.63219°E, *Betula pendula*, *Larix sibirica*, *Pinus sibirica* and *Picea obovata* forest with *Alnus*, *Lonicera*, *Ribes nigrum* and tall grass vegetation on hummocks, along brook, ca 1435 m a.s.l., b.h., sifted leaf litter, p.t., 20–22.VII.2018, leg. P.N., V.G., M.M., V.L.; 1 ♂ (ASU), same Republic, Ongudai District, 20 air-km W of Chibit, valley of Chuya River, environs of Shirlak Waterfall, 50°20.670'N, 87°13.388'E, riverine terrasse and slopes with *Picea obovata*, *Betula*, *Caragana arborescens*, 1000 m a.s.l., sifting flood refuse and leaf litter at river banks and on slopes over 300 m, 23.VII.2018, leg. V.G., M.M., V.L.; 2 ♂♂, 2 ♀♀, 1 juv. (PSU-1009), same Republic, Ulagan District, 3 air-km NW of Chibit, foot of SW slope, 50°20. 008′N, 87°27.688′E, scattered *Picea obovata* and *Berberis*, ca 1125 m, 23.VII.2018, leg. P.N.; 3 ♂♂, 3 ♀♀, 3 juv. (ASU), same Republic, Kosh-Agach District, 2 air-km NE of Kurai, valley of Kuraika River, left bank, 1.5–2 air-km up the river from Chuya Tract, 50.24651°N, 87.95520°E, riverine *Larix sibirica* forest, ca 1590 m a.s.l., under stones and in litter, 24.VII.2018, leg. P.N., V.G.; 2 ♂♂ (ASU), same Republic and District, 20 air-km NE of Kokorya, Chikhachiova Mt. Range, Talduair massif, right bank of Sailyugem River, 50.01802°N, 89.23557°E, floodplain *Larix sibirica* forest, 2225 m a.s.l., under stones, 26.VII.2018, leg. P.N., M.M., V.L.; 2 ♂♂, 3 ♀♀, 1 juv. (ASU), same Republic and District, 14 air-km W of Belyashi (=Dzhazator), valley of Koksu River, left bank, 49.70599°N, 87.21581°E, *Picea obovata* forest with *Caragana arborescens*, *Vaccinium vitis-idaea* and green moss, ca 1605 m a.s.l., 28.VII.2018, leg. P.N.; 2 ♂♂, 1 juv. (ASU), near s.l., 49°42.369′N, 87°12.943′E, forest with *Picea obovata* and *Larix sibirica*, ca 1610 m a.s.l., sifting leaf litter and moss over 200 m, 28.VII.2018, leg. V.G., M.M., V.L.; 1 ♂ (ASU), same Republic and District, 26 air-km NNW of Belyashi (=Dzhazator), valley of Karagem River, W macroslope of Yuzhno-Chuiskii Mt. Range, 49.88194°N, 87.20650°E, *Larix sibirica* and *Picea obovata* forest

with *Caragana arborescens*, *Alnus* and green mosses, ca 1560 m a.s.l., under stones and in moss, 29.VII.2018; 1 juv. (ASU), same Republic and District, 13.5 air-km ESE of Belyashi (=Dzhazator), valley of Uzurgu (=Tenektybulak/Terektybulak) River, 49.66981°N, 87.60945°E, *Larix sibirica* and *Picea obovata* forest with *Pinus sibirica*, ca 1635 m a.s.l., under stones, 30.VII.2018; 7 ♂♂, 1 ♀, 4 juv. (ASU), same Republic, Ust-Kan District, 2 air-km SW of Ust-Kan, valley of Kutergen River, 50.90546°N, 84.73464°E, *Picea obovata* forest with *Spiraea* and green mosses on left river bank, ca 1180 m a.s.l., in and under moss, covering big stones, 19.VIII.2018; 1 ♂, 1 ♀, 2 juv. (ASU), same Republic and District, 2.5 air-km SW of Ust-Kan, 50.91489°N, 84.71967°E, *Betula pendula* and *Larix sibirica* forest with *Pinus sibirica*, *Alnus*, *Cotoneaster*, *Rosa spinosissima* and tall grass vegetation on S slope, 1450 m a.s.l., in green moss, 19.VIII.2018, all leg. P.N.; 5 ♀♀, 1 juv. (ASU), Russia, **Altai Province**, Kosikha District, near Ozero-Krasilovo, ASU Field Station, Lake Krasilovo, *Pinus sylvestris*, *Betula pendula* and *Populus tremula* forest with tall grass vegetation, p.t., 30.VI.–5.VII.2014; 6 ♂♂, 5 ♀♀, 3 juv. (PSU-1272), s.l., p.t., 5–10.VII.2014, all leg. P.N.; 2 ♂♂, 4 ♀♀, 1 juv. (ASU), same Province, Krasnoshchiokovo District, near Chineta, Chineta Nature Reserve, 51°19′N, 83°00′E, *Betula pendula*, *Pinus sylvestris*, *Populus tremula* with *Caragana arborescens* and *Lonicera tatarica*, on slope of hill, 480 m a.s.l., litter, 6.VI.2015, leg. P.N., J.N.; 2 ♂♂, 2 ♀♀, 1 juv. (PSU-1266), same Province, Troitskoye District, near Chervyanka, young *Pinus sylvestris* forest, p.t., 15–24.VIII.2016; 2 ♀♀ (ASU), near s.l., *Pinus sylvestris* forest, p.t., 16–25.VIII.2016, all leg. N.V.

DISTRIBUTION. A central Asian species, *L.* (*M.*) *insolens* was originally described by Farzalieva [2006: as *L.* (*M.*) *insolitus*] from Eastern Kazakhstan, later renamed to avoid homonymy (see Dányi & Tuf [2012]). This species has recently been recorded from the Omsk Area [Nefediev *et al.*, 2017c], the Altai Province [Nefediev *et al.*, 2017b, 2018], and the Republic of Altai [Nefediev *et al.*, 2017a; Dyachkov, 2017b].

REMARKS. The above records of *L.* (*M.*) *insolens* extend its distribution for the whole territory of the Republic of Altai and the central regions of the Altai Province.

Lithobius (*Monotarsobius*) *nordenskioeldii* Stuxberg, 1876 Map 7.

Lithobius Nordenskiöldii — Stuxberg, 1876a: 22, 23–24: figs; 1876b: 311; Nefediev, Aripov, 2013: 40.

Lithobius nordenskioldii — Eason, 1976: 105, 106: figs.

Lithobius (*Monotarsobius*) cf. *nordenskioeldii* — Nefediev *et al.*, 2017a: 221, 220: map.

Lithobius (*Monotarsobius*) *nordenskioldii* — Nefediev *et al.*, 2017b: 13.

Lithobius (*Monotarsobius*) *nordenskioeldii* — Nefediev *et al.*, 2018: 235.

non *Lithobius Nordenskiöldii* pro parte — Stuxberg, 1876a: 22, 23–24: figs; 1876b: 311.

MATERIAL EXAMINED. 1 ♀ (PSU-1244), Russia, **Republic of Altai**, Ulagan District, 15 air-km NNW of Aktash, near Lake Taldukiol, 50.442204°N, 87.535498°E, sparse *Larix sibirica* forest with *Betula rotundifolia*, 1840 m a.s.l., soil sample (0–10 cm deep), 17–18.VII.2006, leg. P.N., J.N.

DISTRIBUTION. Being originally described by Stuxberg [1876a, b] from the Yenisei River region, Krasnoyarsk Province, central Siberia, *L.* (*M.*) *nordenskioeldii* was redescribed a century later by Eason [1976] from Stuxberg's type material with a designation of a lectotype. This species provisionally recently found in the Republic of Altai (near Lake Teletskoye) [Nefediev *et al.*, 2017a] and the Altai Province [Nefediev *et al.*, 2017b, 2018], both SW Siberia.

REMARKS. The above is the first confirmed record of *L.* (*M.*) *nordenskioeldii* in the Republic of Altai, expanding the southeastern range limit of the species.

Lithobius (*Monotarsobius*) *worogowensis* Eason, 1976 Map 2.

Monotarsobius worogowensis Eason, 1976: 120, 121: figs.

Monotarsobius worogowensis — Zalesskaja, 1978: 153, figs; Vorobiova, 1999: 33; Rybalov, 2002: 82; Vorobiova *et al.*, 2002: 61.

MATERIAL EXAMINED. 1 ♂ (PSU-813), Russia, **Republic of Khakassia**, Ust-Abakan District, valley of Uibat River, 53.825765°N, 90.052647°E, mixed forest, ca 700 m a.s.l., in litter, 17.VII.2012, leg. A.M.

DISTRIBUTION. Originally described by Eason [1976] from Stuxberg's type material of *L.* (*M.*) *nordenskioeldii* and *L. vagabundus*, this species was later recorded also from the Yenisei River region [Vorobiova, 1999; Rybalov, 2002; Vorobiova *et al.*, 2002].

REMARKS. The above male of *L.* (*M.*) *worogowensis*, taken in the Republic of Khakassia, is the first regional and southernmost record of this species.

Conclusions

The above new records of all 13 species clarify their distribution areas in Siberia. Two species, *Lithobius* (*Ezembius*) *giganteus* Sseliwanoff, 1881 and *L.* (*Chinobius*) *opinatus* (Zalesskaja, 1978), the subgenus *Chinobius* Matic, 1973, the latter species belongs to, are new to western Siberia. Five species, *L.* (*Ch.*) *opinatus* (Zalesskaja, 1978), *L.* (*E.*) *princeps* Stuxberg, 1876, *L.* (*Monotarsobius*) *curtipes* C.L. Koch, 1847, *L.* (*M.*) *fugax* Stuxberg, 1876 and *L.* (*M.*) *worogowensis* Eason, 1976, as well as the genus *Lithobius* Leach, 1814, and three subgenera, *Chinobius* Matic, 1973, *Ezembius* Chamberlin, 1919 and *Monotarsobius* Verhoeff, 1905, and the family Lithobiidae they all belong to, are formally recorded from the Republic of Khakassia for the first time. Two species, *L.* (*E.*) *giganteus* Sseliwanoff, 1881 and *L.* (*M.*) *fugax* Stuxberg, 1876, are formally new to the Republic of Altai. *Lithobius* (*M.*) *nordenskioeldii* Stuxberg, 1876 is also confirmed for its presence in the Republic of Altai.

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